

Claims

1. A method of transmitting transparent data requiring a substantially constant transmission delay and a substantially constant bit rate
5 over a connection between a transmitting end and a receiving end, comprising steps of assigning to said connection a bandwidth wider than a bandwidth required by a nominal bit rate of said data,
utilizing a retransmitting transmission protocol over said connection, employing said retransmitting protocol in a protocol layer underlying a
10 transparent layer.
2. A method according to claim 1, wherein said utilization of the retransmitting protocol comprises steps of
buffering the transmitted data at the transmitting end,
15 retransmitting the data corrupted during transmission over said connection and requested by the receiving end,
buffering the received data at the receiving end and forwarding the buffered data at a constant bit rate meeting the bit rate and delay requirements of the data,
20 forwarding from the receiving end the incorrectly received data when the bit rate and delay requirements of the data do not allow to wait for the retransmission of the data, and forwarding the uncorrupted data otherwise.
3. A method according to claim 1 or 2, comprising
buffering the data into a transmitting buffer and a receiving buffer of
25 equal size,
transmitting new data without waiting for an acknowledgement for previous data if the transmitting buffer fills up to a predetermined level, in order to avoid the receiving buffer becoming empty.
4. A method according to claim 1 or 2, comprising
30 transmitting fill data over the connection when the wider bandwidth is not used for transmission and retransmission of the data.
5. A method according to claim 1 or 2, comprising assigning said wider bandwidth to the connection or using the assigned bandwidth dynamically on demand.

6. A method according to any one of claims 1 or 2, wherein said connection is between a subscriber station and a network element over an air interface in a wireless communications system.

7. A method of transmitting transparent data requiring a substantially constant transmission delay and a substantially constant bit rate over a connection between a transmitting end and a receiving end, comprising

assigning to said connection a bandwidth wider than a bandwidth required by a nominal bit rate of said data,

utilizing a retransmitting transmission protocol over said connection, employing said retransmitting protocol in medium access control (MAC) layer underlying a transparent layer.

8. A communications system comprising a transmitter and a receiver for transmitting data requiring a substantially constant delay and a substantially constant bit rate over a connection therebetween, said connection having a retransmitting transmission protocol and a bandwidth wider than a bandwidth required by a nominal bit rate of said data, said retransmitting protocol being a retransmitting protocol in a protocol layer underlying a transparent layer.

9. A system according to claim 8, wherein said retransmitting protocol is a medium access control (MAC) layer.

10 A system according to claim 8 or 9, comprising a transmission buffer for the transmitted data in the transmitter (30), the transmitter being arranged to retransmit the data corrupted during transmission over said connection and requested by the receiver, a receiving buffer in the receiver for forwarding the buffered data at a constant bit rate meeting the bit rate and delay requirements of the data, the receiver being arranged to forward the corrupted data when the bit rate and delay requirements of the data do not allow to wait for the retransmission of the data, and to forward the uncorrupted data otherwise.

11. A system according to claim 10, comprising the transmitting buffer and the receiving buffer being of equal size, the transmitter being arranged to transmit new data without waiting for an acknowledgement for previous data if the transmitting buffer fills up to a predetermined level, in order to avoid the receiving buffer becoming empty.

12. A system according to claim 8 or 9 , wherein the transmitter is arranged to transmit fill data over the connection when the wider bandwidth is not used for transmission and retransmission of the data.

13. A system according to claim 8 or 9 comprising a dynamic
5 allocation of said wider bandwidth to the connection on demand.

14. A system according to claim 8 or 9, wherein said retransmitting protocol is employed in a protocol layer underlying the transparent layer.

15. A system according to claim 8 or 9, comprising a medium access control (MAC) layer underlying the transparent connection layer, said
10 retransmitting protocol being employed in the MAC layer.

16. A system according to claim 8 or 9, wherein said connection is between a subscriber station and a network element over an air interface in a wireless communications system.

17. A subscriber terminal in a communications system, said
15 subscriber terminal comprising a transceiver for transmitting and receiving transparent data requiring a substantially constant transmission delay and a substantially constant bit rate over a connection to and from another party, said connection (having a retransmitting transmission protocol and a bandwidth wider than a bandwidth required by a nominal bit rate of said data, said
20 retransmitting protocol is a retransmitting protocol in a protocol layer underlying a transparent layer.

18. A subscriber terminal according to claim 17, wherein a protocol layer underlying a transparent layer. is a medium access control (MAC) layer.

19. A subscriber terminal according to claim 17 or 18, comprising
25 a transmission buffer for the transmitted data,
the transceiver being arranged to retransmit the data corrupted during transmission over said connection (and requested by the other party,
a receiving buffer,

the transceiver being arranged to forward the corrupted data when
30 the bit rate and delay requirements of the data do not allow to wait for retransmission of the data, and to forward the uncorrupted data otherwise.